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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,330	10/16/2001	Graham K. Philp JR.	7047	1668

7590 06/15/2005

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EXAMINER	
POE, MICHAEL I	

ART UNIT	PAPER NUMBER
1732	

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/977,330	PHILP, GRAHAM K.	
	Examiner	Art Unit	
	Michael I. Poe	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 February 2005 and 25 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,5-11,22-24 and 26-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5-11,22-24 and 26-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on February 24, 2005 and April 25, 2005 have been entered.

Amendments

2. Applicant's amendments filed on February 24, 2005 and April 25, 2005 have been entered. Based upon the entry of this amendment, existing claims 1, 3, 10, 22-24, 26 and 30 have been amended, existing claims 2, 4 and 25 have been canceled, and new claim 30 has been added. Claims 1, 3, 5-10, 22-24 and 26-32 are currently pending.

Claim Objections

3. Claims 1, 3, 5-11, 22-24 and 26-32 are objected to because of the following informalities: (1) "filing" should be "filling" on the 2nd line of step (e) of claim 1; and (2) "filing" should be "filling" on the 3rd line of step (g) of claim 22. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

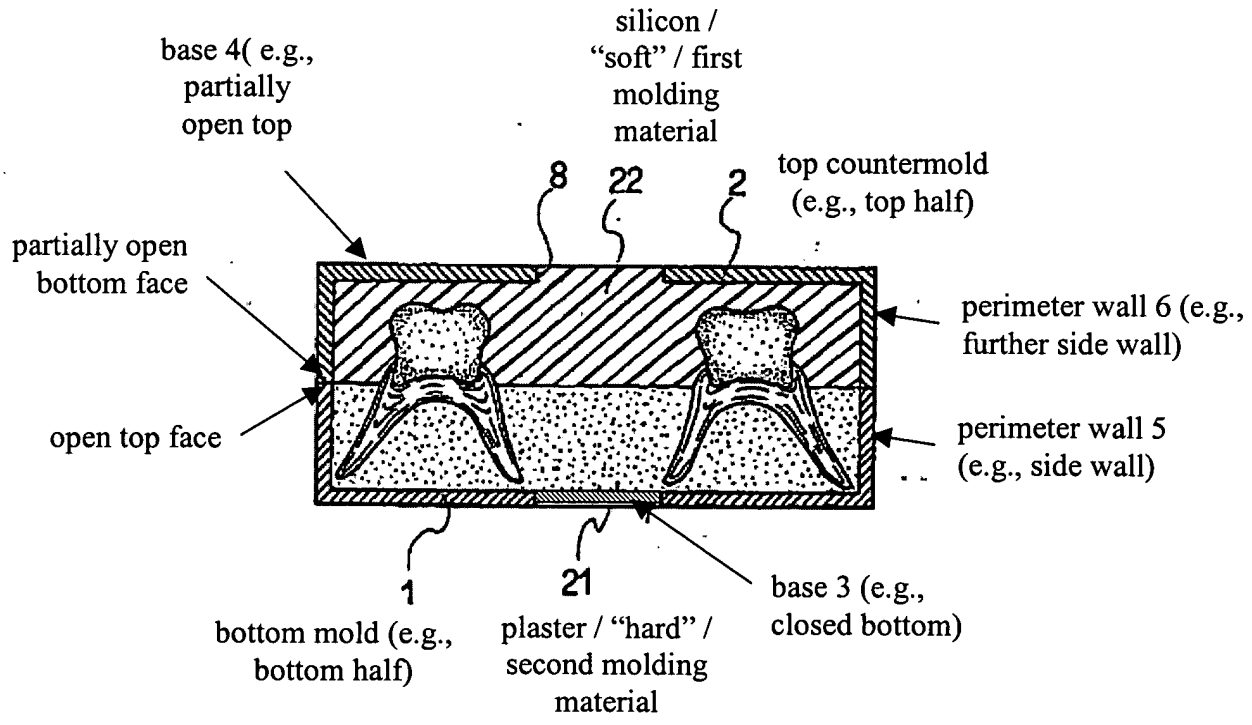
> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 3, 5-10, 22-24, 26-30 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent Application No. EP 0790039 A1 (Palazzolo #1) in view of U.S. Patent No. 5,711,668 (Huestis) and U.S. Patent No. 4,094,067 (Hazar).

Claims 1, 3, 5, 6, 10, 22-24, 26, 27, 30 and 32

Palazzolo #1 teaches a method for the production of a duplicate of a denture original including placing the original denture 18 (providing an existing dental prosthetic) in a bottom mold 1 (providing a mold having a bottom half and a top half); pouring a material for use in dental molds, preferably plaster, into the bottom mold 1 until reaching the level of the bottom of the teeth part 20 of the original denture 18 and thereby embedding the gum portion 19 in the mold material (partially filling the bottom half of the mold with a first molding material; a first portion of the existing dental prosthetic in the first molding material disposed in the bottom half); fastening a top countermold 2 onto the bottom mold 1 (placing the top half of the mold on the bottom half of the mold after the step of partially filling the bottom half of the mold); pouring a second material for use in dental molds, preferably a silicon type material, into the assembled mold through a central opening 8 in the base of the top countermold 2 to completely embed the tooth part 20 of the original denture 18 (providing a second molding material; covering a portion of the first molding material and a further portion of the existing dental prosthetic with a second molding material; the step of covering a portion with the second molding material includes adding the second molding material through the partially open top of the top half and through the partially open bottom face of the top half, after the step of partially filling the bottom half of the mold with a first molding material; adding the second molding material after the step of placing a first portion of the existing dental prosthetic in the first molding material partially filling the bottom half of the mold); placing the assembled mold into a press of the type used in odontotechny to obtain perfect adherence between the original denture 18 and the mold materials with any excess mold materials being forced out through the central openings 7 and 8 in the assembled mold; allowing the mold materials to harden and/or polymerize in the assembled mold to form a plaster imprint 23 of the gum portion 19 and a polymer imprint 24 of the dental arch 20 (allowing the first molding material and the second molding material to harden); extracting the original denture 18 from the assembled mold and returning the original denture 18 to the user (removing the dental prosthetic from the first molding material and the second molding material); and forming a new denture in the mold formed between imprint 23 and imprint 24 (using the hardened first molding material and the second molding material to form a negative of the existing dental prosthetic; using the negative of the existing dental prosthetic to make a positive of a new dental prosthetic) (Abstract; column 5, line 33 – column 6, line 45).

Palazzolo #1 further teaches that the apparatus comprises a bottom mold 1 and a top countermold 2, formed by a base 3, 4, respectively, and a substantially cylindrical perimeter wall 5, 6, respectively (column 4, line 57 - column 5, line 5). Palazzolo #1 further teaches that the perimeter walls 5, 6 are slightly conical in shape (e.g., narrowing from the bottom towards the edge of the walls) (a tapered side wall; a further tapered side wall) to facilitate extraction of the material in the mold when pushed upward through opening 7, 8 in the base at the end of the process (column 5, lines 27-32). Palazzolo #1 further teaches that the base 3, 4 has a preferably, but not necessarily, central opening 7, 8, respectively, for the purposes of the process serves to push out the mold material (plaster or polymerizable resin) (column 4, line 57 - column 5, line 5). As such, Palazzolo #1 teaches a non-preferred embodiment wherein the central opening 7 can be omitted if so desired. A marked-up version of Figure 7 of Palazzolo #1 has been provided below to illustrate the non-preferred embodiment of the molding apparatus of Palazzolo #1 and its correspondence with the instantly claimed molding apparatus.



Non-Preferred Embodiment of Palazzolo #1

Palazzolo #1 does not specifically teach that the gum portion is placed in the bottom mold 1 after the bottom mold 1 has been partially filled with the first molding material. However, Huestis teaches a method of initiating the construction of a new denture from a worn denture including placing a worn denture in an impressionable material 12 located in a flask 14 comprising an upper shell 15 and a lower shell 16 (partially filling the bottom half of the mold with a first molding material; placing a first portion of the existing dental prosthetic in the first molding material disposed in the bottom half), closing the flask 14, allowing the impressionable material 12 to set and solidify fully in the flask 14, separating the upper shell 15 from the lower shell 16, and removing the patient's worn denture for return to the patient (Abstract; column 3, line 50 – column 4, line 4). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made and one of ordinary skill would have been motivated to place the first molding material in the bottom mold 1 prior to inserting the original denture into the bottom mold 1 in the process of Palazzolo #1 as taught by Huestis to assure that the first mold material was completely filled into the spaces surrounding the gum portion of the original denture 18 to thereby preventing voids in the formed molding impression.

As illustrated by the marked-up figure above, Palazzolo #1 in view of Huestis teaches that the "hard" material is added into the bottom mold 1, the original denture is inserted into the "hard" material such that the "hard" material surrounds the gum portion of the original denture, and then the "soft" material is added into the closed mold through the opening in the top countermold 2 to surround the tooth portion of the original denture. In the applicant's process, a hydrocolloid material (i.e., the "soft" material") is added to the bottom half, the dental prosthetic is inserted into the hydrocolloid material such that the hydrocolloid material surrounds the tooth portion, and then dental stone (i.e., the "hard" material) is added into the closed mold through the opening in the top half to surround the gum portion. Since the process of Palazzolo #1 in view of Huestis and the applicant's process both associate the "soft" material with the tooth portion and the "hard" material with the gum portion and both provide the same basic process steps, the process of Palazzolo #1 in view of Huestis and the applicant's process would apparently provide the same inner mold impressions, basic product and results, and therefore would be obvious variations of each other, despite the addition of the "soft" and "hard" molding materials in the opposite order. It is noted that the selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results (see *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946)). Since the

applicant has not provided any evidence of new or unexpected results, the examiner stipulates the applicant's process would be obvious in view of the teachings of Palazzolo #1 despite the addition of the "soft" and "hard" molding materials in the opposite order.

Palazzolo #1 does not specifically teach that the "soft" molding material is a hydrocolloid material or more specifically alginate. However, Huestis further teaches that the impressionable material 12 is an irreversible hydrocolloid and most preferably an alginate. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made and one of ordinary skill would have been motivated to use alginate as the "soft" molding material in the process of Palazzolo #1 as taught by Huestis to provide a "soft" material that does not require extensive preparation prior to use.

Palazzolo #1 in view of Huestis does not specifically teach that the "hard" molding material is dental stone. However, Hazar teaches a method for producing artificial dentures including casting an impression model 100 around the lower areas of a fitted denture module; placing the denture module with the impression model 100 in a flask 102; pouring plaster 104 in the flask 102 around the impression model 100; allowing the plaster 104 to set; applying a release agent to the hardened plaster 104; pouring plaster or dental stone 108 into the flask 102 over the denture (providing a dental stone; covering a portion of the first molding material and a further portion of the existing dental prosthetic with dental stone); and allowing the stone 108 to harden to form a mold for an artificial denture (column 4, line 56 – column 5, line 15). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made and one of ordinary skill would have been motivated to use dental stone as the "hard" molding material in the process of Palazzolo #1 in view of Huestis as taught by Hazar to provide a "hard" molding material that was stronger than plaster to thereby produce a stronger impression mold.

Claims 7-9, 28 and 29

The discussion of Palazzolo #1, Huestis and Hazar as applied to claims 1 and 22 above applies herein.

Palazzolo #1 further teaches that the top countermold 2 Is fastened onto the bottom mold 1 by bolts 14 that pass through bores 12 in the top countermold 2 and that screw into a thread in a bore 11 in the bottom mold 1 (a locking device is provided for attaching the top half of the mold to the bottom half; a locking device detachably attaches the top half to the bottom half; the locking device permanently attaches the top half to the bottom half) (column 5, lines 6-22).

6. Claims 11 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent Application No. EP 0790039 A1 (Palazzolo #1) in view of U.S. Patent No. 5,711,668 (Huestis), U.S. Patent No. 4,094,067 (Hazar) and U.S. Patent No. 4,521,193 (Cialone).

Claims 11 and 31

The discussion of Palazzolo #1, Huestis and Hazar as applied to claims 10 and 22 above applies herein.

Palazzolo #1 in view of Huestis and Hazar does not specifically teach that corrections to the existing dental prosthetic are made prior to the making of the negative. However, Cialone teaches a method for constructing a temporary denture from an original denture wherein a missing or damaged part of an original denture is replaced before an impression is made or wherein an appropriate correction in the impression is made before molding the temporary denture from the original denture (making corrections to the existing dental prosthetic prior to making the negative) (column 4, lines 31-42). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made and one of ordinary skill would have been motivated to make any necessary corrections to the original denture 18 prior to forming the impressions in the process of Palazzolo #1 in view of Huestis and Hazar as taught by Cialone to provide a denture that more accurately fits the patient's mouth to thereby reduce post molding adjustments.

Response to Arguments

7. Applicant's arguments filed February 24, 2005 and April 25, 2005 have been fully considered but they are not persuasive.

The applicant first argues that the process of Palazzolo #1 teaches directly away from the applicant's claimed method in which a claimed "resilient material" is provided in the bottom half because Palazzolo #1 requires a rigid, non-resilient material to be placed in the bottom mold having an open bottom. Although the examiner acknowledges that the process of Palazzolo #1 in view of Huestis and Hazar teaches adding the molding materials in the opposite order, the examiner stipulates that the process of Palazzolo #1 in view of Huestis and Hazar would provide the same overall results as the applicant's claimed process, and therefore would be an obvious variant of the applicant's claimed process as discussed further above. Since the Applicant has not provided any evidence of new or unexpected

results, the addition of the molding materials in the opposite order in the process of Palazzolo #1 in view of Huestis and Hazar would be prima facie obvious as discussed above (see *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946)). For the reasons provide above, the applicant's arguments in this regard are considered unpersuasive by the examiner.

The applicant further argues that it would not have been obvious to provide a bottom mold having a closed bottom in the process of Palazzolo #1 as stipulated by the examiner because closing the bottom of Palazzolo #1 would have prevented the proper functioning of the Palazzolo #1 method. Although the examiner acknowledges that Palazzolo #1 teaches that the bottom mold *preferably* has an opening 7, the examiner stipulates that Palazzolo #1 clearly teaches a non-preferred embodiment wherein the bottom mold does not have an opening 7 (see specifically column 4, line 57 - column 5, line 5). In this regard, it is well settled that a reference must be considered for not only what it expressly teaches, but also for what it fairly suggests and that the entirety of the reference disclosure, including unpreferred embodiments must be considered in determining obviousness (see *In re Burckel*, 592 F.2d 1175, 201 USPQ 67; *In re Lamberti*, 545 F.2d 747 USPQ 278). As such, although Palazzolo #1 may not prefer closing the bottom mold, Palazzolo #1 does include a valid teaching of closing the bottom mold when such is desired. For the reasons provided above, the applicant's arguments in this regard are considered unpersuasive by the examiner.

The applicant further argues that a user would not have been able to remove hardened, rigid, dental stone without the provision of the Palazzolo #1 hole 7 by which the user can apply force to and eject the hardened stone. In this regard, the examiner stipulates that, since Palazzolo #1 teaches a non-preferred embodiment of a closed bottom mold and further teaches removing the hardened stone from the bottom mold, Palazzolo #1 must have obviously had a way for removing the hardened stone from a closed bottom mold without the use of the hole 7 even though such a way is not specifically disclosed. Further, the examiner stipulates that it would have been within the skill level of one of ordinary skill in the art to develop a method for removing the hardened stone from the closed bottom mold in the non-preferred embodiment of Palazzolo #1 without damaging the hardened stone through routine experimentation. For the reasons provided above, the applicant's arguments in this regard are considered unpersuasive.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 3,083,110 (Preston) and U.S. Patent No. 3,975,489 (Mercer) have been cited of interest to show the state of the art at the time of the applicant's invention.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael I. Poe whose telephone number is (571) 272-1207. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MICHAEL P. COLAIANNI
SUPERVISORY PATENT EXAMINER

Michael I. Poe
Patent Examiner
Art Unit 1732